

Amendments to the Claims:

Claims 1 – 5, 11, 13, 16, and 19 are currently amended. Claims 6 – 7, 9 – 10, 14 – 15, and 17 – 18 are original. Claims 20 – 21 are new. Claim 8 is previously presented. No new matter is introduced. Consideration of all claims is respectfully requested.

5 Listing of Claims:

Claim 1 (currently amended): A real-time remote backup system used in a network system connecting at least one source computer system and one destination computer system, each computer system consisting of a kernel space and a user space, and the backup system comprising:

- 10 a loadable kernel module that pre-sets up at least a specific system call
 defined by a user within the kernel space of the source computer system,
 receiving a notification generated from the pre-set system call to
 generate a corresponding file modification message when ~~while~~ a file
 modification event conforming to the specific system call occurs in the
15 user space of the source computer system;
 a scheduling module queuing each said file modification message from the
 loadable kernel module, and then generating a corresponding backup
 command in response to ~~the~~ each said file modification message; and
 at least one network backup unit installed in the source computer system, in
20 accordance ~~to~~ with a file information of a known modified file provided
 within the backup command, performing a checksum test to determine a
 variant part of the known modified file and backing-up the variant part
 of the known modified file through the network system to the
 destination computer system when receiving each backup command
25 transmitted from the scheduling module.

Claim 2 (currently amended): The backup system of claim 1 wherein the loadable kernel module further comprises a replacement unit for replacing an original system call in the source computer system ~~to~~ with the specific system call.

30

Claim 3 (currently amended): The backup system of claim 2, further including a

graphical user interface (GUI) having an automatic network backup switch
for ~~providing the~~ enabling the user to switch on/off an automatic network
backup function, so that the replacement unit of the loadable kernel module
will ~~replace-back~~ switch to the original system call when the automatic
5 network backup function is switched off.

Claim 4 (currently amended): The backup system of claim 1 wherein the loadable
kernel module further comprises:

10 a call determining unit determining whether the specific system call is one of
a plurality of predetermined system calls; and
a message processing unit generating the file modification message to the
scheduling module, ~~according to determination of when~~ the call
determining unit determines that the specific system call is one of a
plurality of predetermined system calls.

15

Claim 5 (currently amended): The backup system of claim 1 wherein the file
modification message comprises at least ~~[[a]]~~ the filename and the path of the
known modified file.

20 Claim 6 (original): The backup system of claim 1, wherein the scheduling module
further comprises a queue unit for accommodating the file modification
messages in sequence from the loadable kernel module.

25 Claim 7 (original): The backup system of claim 6, wherein the scheduling module
further comprises a schedule managing unit for queuing sequentially each
said message into the queue unit, and a schedule processing unit for
sequentially reading the messages out the queue unit and transmitting the
backup commands according to the messages.

30 Claim 8 (previously presented): The backup system of claim 7 wherein the schedule
managing unit and the schedule processing unit use a same algorithm.

5 Claim 9 (original): The backup system of claim 8 wherein the algorithm used by both the schedule managing unit and the schedule processing unit is in coordination with an algorithm used by the network backup unit to prevent data from losing during the transmission process of said message and command.

10 Claim 10 (original): The backup system of claim 9 wherein the schedule managing unit and the schedule processing unit respectfully have at least one specific thread for defining an adjustable optimized time interval.

Claim 11 (currently amended): The backup system of claim 1 wherein the backup command comprises at least ~~[[the]]~~ a path of the known modified ~~varied~~ file.

15 Claim 12 (original): The backup system of claim 1 wherein the destination computer system further comprises another one same network backup unit for receiving backup data from the source computer system.

20 Claim 13 (currently amended): A real-time remote backup system installed in a source computer system connected to a destination computer system through a network system, each computer system comprising at least one kernel space for a kernel and a user space for a network backup unit, and the backup system comprising:

25 a loadable kernel module that pre-sets up at least one specific system call defined by a user in the kernel space of the source computer system, ~~determining-generation-of~~ generates a corresponding file modification message, according to the type of the system call, to notify the kernel when a file modification event conforming to the specific system call occurs in the user space of the source computer system, wherein the loadable kernel module comprises a replacement unit for replacing an
30 original system call in the source computer system with the specific system call; and

a scheduling module sequentially queuing and processing each said file

modification message transmitted from the loadable kernel module to generate a corresponding backup command to facilitate that the network backup unit of the source computer system backs-up ~~[[the]]~~ a modified file to the destination computer system through the network system.

5

Claim 14 (original): The backup system of claim 13, wherein the file modification message comprises at least a filename and a path of the modified file.

10

Claim 15 (original): The backup system of claim 13, wherein the backup command comprises at least a path of the modified file.

15

Claim 16 (currently amended): A method of real-time remote backup used in a network system interconnecting between at least one source computer system and one destination computer system, each computer system consisting of a kernel space and a user space, and the method comprising:

20

implementing a specific system call defined by a user that is pre-loaded by a loadable kernel module in the kernel space of the source computer system, to notify a kernel of the source computer system of a file modification event when the file modification event conforming to the specific system call occurs in the user space of the source computer system;

25

notifying the loadable kernel module ~~being notified~~ of said file modification event to determine whether a file modification message should be generated with reference to the type of the specific system call, as soon as the specific system call is implemented;

30

queuing in sequence each said file modification message into a queue unit; sequentially taking and processing the file modification messages from the queue unit to generate a corresponding backup command; and utilizing a network backup unit for performing a checksum test to determine a variant part of a known modified file according to a file information of the known modified file provided therein and backing-up the variant part of the known modified file ~~the modified part of the file~~ to the destination

computer system through the network, ~~according to the backup~~
~~command.~~

5 Claim 17 (original): The method of claim 16, wherein the file modification message
comprises at least a filename and a path of the modified file.

Claim 18 (original): The method of claim 16, wherein the backup command comprises
at least a path of the modified file.

10 Claim 19 (currently amended): The method of claim 16, wherein the loadable kernel
module only generates the file modification message ~~or terminates the~~
~~process if determining~~ the system call is one of a plurality of predetermined
system calls.

15 Claim 20 (new): A real-time remote backup system used in a network system
connecting at least one source computer system and one destination
computer system, each computer system consisting of a kernel space and a
user space, and the backup system comprising:
a loadable kernel module that pre-sets up at least a specific system call
20 within the kernel space of the source computer system to generate a
corresponding file modification message when a file modification
event occurs in the user space of the source computer system;
at least one network backup unit installed in the source computer system,
in accordance with a file information provided within the backup
25 command, backing-up a variant part of a file through the network
system to the destination computer system when receiving a backup
command;
a schedule managing unit for queuing sequentially each said message into
a queue unit; and
30 a schedule processing unit for sequentially reading the messages from
the queue unit and transmitting backup commands according to the
messages;

wherein both the schedule managing unit and the schedule processing unit use an algorithm which is in coordination with an algorithm used by the network backup unit.

- 5 Claim 21 (new): The backup system of claim 20 wherein the schedule managing unit and the schedule processing unit respectfully have at least one specific thread for defining an adjustable optimized time interval.

10